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Flying Operations

T-43 AIRCREW EVALUATION CRITERIA



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OPR: HQ AETC/DOFV
(Maj Jack English)

Certified by: HQ USAF/XOO
(Brig Gen Robert D. Bishop)

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This instruction implements AFD 11-2, *Aircraft Rules and Procedures*, and AFI 11-202, Volume 2, *Aircrew Standardization/Evaluation Program*. It establishes procedures and criteria for evaluation of all aircrews performing duties in the T-43 aircraft. **Attachment 1** contains a glossary of references and supporting information.

This AFI does not apply to the Air National Guard or Air Force Reserve Command. Major commands (MAJCOM) will forward proposed MAJCOM-level supplements to HQ USAF/XOOT, through HQ AETC/DOFV, for approval prior to publication (AFPD 11-2, paragraph 4.2). After approval and publishing, the issuing MAJCOM will send one copy each of MAJCOM-level supplement to HQ USAF/XOOT, HQ AETC/DOFV, and user-MAJCOM OPRs. Field units below MAJCOM level will forward one copy of each supplement to their parent MAJCOM OPR for post-publication review.

See paragraph 2. of this AFI for guidance on submitting comments and suggesting improvements to this publication. Maintain and dispose of records created as a result of processes prescribed in this publication in accordance with AFMAN 37-139, *Records Disposition Schedule*.

Section A	General Information	2
1.	Conducting Evaluations	2
2.	Recommended Changes and Waivers	2
3.	Procedures	2
4.	Grading Instructions	3
5.	Emergency Procedures Evaluation (EPE)	3
6.	Completion of AF Form 8, Certificate of Aircrew Qualification	3

Section B Evaluation Requirements 4

7. Guidelines 4

8. Pilot Evaluations 4

9. Navigator Evaluations 4

Table 1. Pilot Evaluations 5

Table 2. Navigator Evaluations 7

Section C Evaluation Criteria 8

10. General Grading Standards 8

Table 3. General Evaluation Criteria 8

11. Evaluations 8

Table 4. Pilot Evaluation Criteria 9

Table 5. Navigator Evaluation Criteria 19

Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 23

Section A—General Information

1. Conducting Evaluations. All evaluations will be conducted in accordance with the provisions of AFI 11-202, Volume 2, and this AFI.

2. Recommended Changes and Waivers. Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, to the parent MAJCOM through standardization/evaluation (stan/eval) channels. Parent MAJCOMs will forward approved recommendations to HQ AETC/DOF. HQ AETC/DO is waiver authority for this AFI. Waiver requests may be submitted in message, electronic mail, or official memorandum format. File a copy of approved waivers with this AFI.

3. Procedures:

3.1. Flight examiners (FE) will use the evaluation criteria contained in **Section C** for conducting all flight and emergency procedures evaluations (EPE). To ensure standard and objective evaluations, FEs will be thoroughly familiar with the prescribed evaluation criteria.

3.2. Unless specified, the examinee or FE may fly in any flight position or seat that will best enable the FE to conduct a thorough evaluation.

3.3. Prior to the flight, the FE will brief the examinee on the purpose of the evaluation and how it will be conducted. The examinee will accomplish required flight planning in accordance with the flight position during the evaluation. Higher headquarters FEs (and unit FEs as determined locally) will be furnished a copy of necessary mission data, material, and charts, as required.

3.4. The FE will thoroughly debrief all aspects of the flight. This debrief will include the examinee’s overall rating, specific deviations, area grades assigned (if other than qualified), and any required

additional training. If the overall flight evaluation grade is Q-2 or Q-3, a squadron supervisor must attend the debrief.

4. Grading Instructions:

4.1. Tolerances for in-flight parameters are based on conditions of smooth air and a stable aircraft. Do not consider momentary deviations from tolerances provided the examinee applies prompt corrective action and such deviations do not jeopardize flying safety. Consider cumulative deviations when determining the overall grade.

4.2. FEs will use the grading criteria in this volume to determine individual area grades. They will derive the overall flight evaluation grade (Q-1, Q-2, or Q-3) from the area grades based on a composite for the observed events and tasks according to AFI 11-202, Volume 2, and this AFI. FE judgment must be exercised when the wording of areas is subjective and specific situations are not covered. FE judgment will be the determining factor in arriving at the overall grade.

4.2.1. If the examinee receives an unqualified area grade in any of the critical areas identified by this AFI, an overall unqualified grade (Q-3) will be assigned.

4.2.2. Examinees receiving a grade of Q-3 will be placed in supervised status until recommended additional training is completed and (or) a reevaluation is successfully accomplished. Additional training and reevaluations will be accomplished according to AFI 11-202, Volume 2.

4.2.3. Only those items actually performed or instructed by the examinee will be graded.

5. Emergency Procedures Evaluation (EPE):

5.1. The EPE may be given orally or in a cockpit procedures trainer (CPT). This evaluation will include areas commensurate with examinee's qualification level.

5.2. The following items will be included on all EPEs:

5.2.1. Aircraft general knowledge.

5.2.2. Emergency procedures. Evaluate all recall items and a minimum of two emergency procedures.

5.3. Examinees receiving an overall unqualified grade (Q-3) because of an unsatisfactory EPE will not be permitted to fly in an aircrew position until a successful reevaluation is accomplished. For EPEs graded "qualified with additional training required," the FE will indicate whether the additional training must be accomplished before the next flight.

6. Completion of AF Form 8, Certificate of Aircrew Qualification. Record and certify aircrew member qualification using the AF Form 8 in accordance with AFI 11-202, Volume 2. With the exception of restrictions and exceptionally qualified designation (if used), all comments will be placed on the reverse side of the AF Form 8.

Section B—Evaluation Requirements

7. Guidelines:

7.1. All evaluations will follow the guidelines set in AFI 11-202, Volume 2, paragraph 4. Evaluation requirements are shown in **Table 1.** (Pilot Evaluations) and **Table 2.** (Navigator Evaluations) of this instruction. **NOTE:** Ensure cockpit/crew resource management (CRM) skills are debriefed for all evaluations, using AF Form 4031, **CRM Skills Criteria Training/Evaluation Form.** Forward AF Forms 4031 to the unit CRM program manager for trend analysis.

7.2. In the tables, areas indicated with an "R" are required items for that evaluation. A required area is a specific area that must be evaluated to complete the evaluation. All required areas must be included in the flight evaluation profile. However, if it is impossible to accomplish a required area in flight, the FE may elect to evaluate the areas by an alternate method (for example, CPT, orally, etc.) in order to complete the evaluation. If the FE determines the required item cannot be adequately evaluated by an alternate method, the examinee must complete an additional flight to complete the evaluation. The alternate evaluation will be documented in the Examiner's Remarks in the Comments block of the AF Form 8.

7.3. Areas denoted with an asterisk (*) are critical areas for that evaluation. They are graded Q or U only.

8. Pilot Evaluations:

8.1. Instrument/Qualification. To the maximum extent possible, this evaluation will include approaches at airfields other than home field. The examinee will complete the following requirements:

- 8.1.1. Instrument refresher course (IRC) training.
- 8.1.2. Instrument examination.
- 8.1.3. Closed- and open-book qualification examinations.
- 8.1.4. EPE.

8.2. Pilot Mission Evaluation. Scenarios that represent unit tasking will satisfy the requirements of this evaluation. The FE may perform copilot duties during this evaluation.

9. Navigator Evaluations:

9.1. Ground Evaluation. FEs will administer a ground evaluation in conjunction with each flight evaluation. They will emphasize ground egress, navigator proficiency procedures, emergency procedures, aircraft systems, local mission knowledge, and life support equipment.

9.2. Requirements. The examinee will complete the following requirements: IRC training, an instrument examination, closed- and open-book qualification examinations, and an EPE.

9.3. Initial Qualification. Initial qualification evaluations will be conducted in the T45 simulator or T-43A aircraft.

9.4. Periodic and Initial Instructor/Mission Evaluation. This checkride is used for qualification to instructor and periodic qualification or mission evaluation checkrides. For periodic evaluations, this checkride will be a combined qualification and mission evaluation on an instructional flight.

Table 1. Pilot Evaluations.

I T E M	A	B	C		
	Area	Title	Type of Evaluation (See Legend)		
			1	2	3
GENERAL					
1	1	Mission Planning	R	R	R
2	2	Performance Data	R	R	R
3	3	Publications	R	R	R
4	4	Crew/Passenger Briefings		R	R
5	5	Checklist Usage	R	R	R
6	6	Crew Coordination	R	R	R
7	7	Engine-Start Procedures			
8	8	Taxi			
9	9	Takeoff	R	R	
10	10	Basic Instruments	R	R	R
11	11	Use of Autopilot/Flight Director			
12	12	Radio Procedures			
13	13	Clearing	R	R	R
14	14	Airmanship*	R	R	R
15	15	Situational Awareness*	R	R	R
16	16	General Knowledge	R	R	R
17	17	Emergency Procedures Knowledge	R	R	R
18	18	Crew Debriefing		R	R
19	19	Instructional Ability		R	R
QUALIFICATION					
20	20	Visual Pattern	R	R	
21	21	Landings	R	R	
22	22	Simulated Engine-Out Visual			
23	23	Simulated Engine-Out Landing	R	R	
24	24	Normal Go-Around	R	R	
25	25	Simulated Engine-Out Go-Around	R	R	

I T E M	A	B	C		
	Area	Title	Type of Evaluation (See Legend)		
			1	2	3
26	26	Partial Flap Landing/No Flap Low Approach			
27	27	Approach to Stalls (note 1)			
28	28	Simulated Engine Failure After Takeoff	R	R	
29	29	Touch-and-Go Procedures		R	
INSTRUMENTS					
30	30	Departure			
31	31	Steep Turns			
32	32	Unusual Attitudes			
33	33	Fix to Fix			
34	34	Holding/Procedure Turns	R	R	
35	35	Penetration			
36	36	En Route Descent			
37	37	Nonprecision Approach (may include TACAN/VOR-DME, VOR, NDB/VOR [RMI only], and LOC/ASR)	R	R	
38	38	Precision Approach (may include ILS and PAR)	R	R	
39	39	Circling Approach			
40	40	Missed Approach	R	R	
41	41	Transition to Landing	R	R	

LEGEND:

1 - First pilot/copilot instrument/qualification evaluation

2 - AC/IP/FE instrument/evaluation

3 - AC/IP/FE mission/evaluation

R - Required area

* - Critical area

NOTE:

1. Examinee must only accomplish two of the three stall scenarios.

Table 2. Navigator Evaluations.

I T E M	A	B	C	
	Area	Title	Type of Evaluation (See Legend)	
			1	2
	GENERAL			
1	1	Publications and Equipment	R	R
2	2	Mission Preparation	R	R
3	3	Briefing	R	R
4	4	Checklist Procedures	R	R
5	5	Ground Operations/Post Mission	R	R
6	6	Departure/Climb	R	R
7	7	En Route Requirements	R	R
8	8	Descent and Approach	R	R
9	9	Communication/CRM	R	R
10	10	Mission Management/Situational Awareness	R	R
11	11	Equipment Knowledge/Operations	R	R
12	12	Emergency Procedures	R	R
13	13	General Knowledge	R	R
	INSTRUCTOR			
14	14	Instruction		R
15	15	Subject Matter Knowledge		R
16	16	Grading		R
17	17	Critique		R
	PROFICIENCY			
18	18	VOR/TACAN	R	
19	19	Radar	R	
20	20	Navigation Log	R	
21	21	Chart Procedures	R	
22	22	Course Control*	R	

LEGEND:

1 - Initial qualification evaluation

2 - Initial/periodic instrument and qualification/mission evaluation

R - Required area

* - Critical area

Section C—Evaluation Criteria

10. General Grading Standards:

10.1. On pilot evaluations, the criteria in **Table 3.** will be used during all phases of flight (except as noted for specific events and instrument final approaches).

10.2. FEs will use evaluation criteria in **Table 4.** (pilot) and **Table 5.** (navigator) to grade all areas during evaluations.

Table 3. General Evaluation Criteria.

I T E M	A	B	C
	Grade		
	Q	Q-	U
1	Altitude ± 200 feet	Altitude ± 300 feet	Exceeded Q- limits
2	Airspeed ± 5 percent	Airspeed ± 10 percent	
3	Course ± 5 degrees/3 NM, whichever is greater	Course ± 10 degrees or 5 NM, whichever is greater	

11. Evaluations:

11.1. Instructor Pilot (IP) Evaluations. IP evaluations will be accomplished in conjunction with an instrument/qualification evaluation. The FE will determine which items must be instructed. Instruction should include both demonstrations and error analysis. When possible, the examinee should demonstrate the ability to accurately apply grading standards. The examinee’s ability to analyze deficiencies and impart constructive criticism is an integral part of this evaluation.

11.2. HQ AETC and 19 AF Individual Evaluations. Normally, 19 AF/DOU administers flight evaluations for HQ AETC personnel as well as 19 AF personnel on flying status. (Deviations must be coordinated with 19 AF/ADO.)

Table 4. Pilot Evaluation Criteria.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
1	Area 1. Mission Planning.	Planned basic preflight and in-flight mission requirements as directed in a timely manner. Applicable Air Force and command forms completed correctly and in compliance with all appropriate directives.	Errors in basic mission planning resulted in minor detractions to mission accomplishment. Forms incomplete, but did not detract significantly from mission accomplishment.	Made major errors or omissions that would have prevented a safe or effective mission. Displayed faulty knowledge of operating data or procedures.
2	Area 2. Performance Data.	Required performance data was computed in accordance with flight manual and applicable directives.	Minor errors in computing performance data resulted in incomplete or erroneous data that did not detract from safety of flight.	Errors in computing performance data resulted in erroneous data that would have detracted from safety of flight.
3	Area 3. Publications.	Flight manuals and required directives were current with latest changes correctly posted.	Latest changes were not posted correctly.	Flight manuals and other required directives (including changes) were outdated, missing, or not posted.
4	Area 4. Crew/Passenger Briefings.	Briefings required by the flight manual and (or) associated directives were completed accurately and in a timely manner.	Briefings were not complete or erroneous data were briefed, but did not detract from safety of flight.	Briefings were incomplete or erroneous data were briefed that would have detracted from safety of flight.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
5	Area 5. Checklist Usage.	All checklists were completed in the prescribed order at a point in the mission as designated by the aircraft flight manual and appropriate directives. Accurately determined aircraft status and accepted or rejected the aircraft as appropriate.	Required checklist items were missed or completed in the wrong order, but did not significantly impact systems operation, crew coordination, or safety of flight. Failed to accurately access the status of the aircraft, but did not accept a grounded aircraft for flight.	Missed critical checklist items that would have impacted systems operation, crew coordination, or safety of flight. Accepted an aircraft that was not airworthy.
6	Area 6. Crew Coordination.	Ensured clearance of ground personnel and equipment, using appropriate signals and (or) interphone prior to actuation of aircraft systems. Coordinated checklist items were completed as required.	Inadequate coordination with ground personnel detracted from preflight, engine start, before taxi, or taxi-in operations, but did not detract from safe ground operations. Lack of crew coordination or poor crew coordination resulted in minor mission deviations.	Inadequate coordination with ground personnel would have resulted in unsafe ground operations. Inadequate crew coordination would have detracted from safety of flight.
7	Area 7. Engine-Start Procedures.	Completed engine start as directed by the flight manual.	Minor deviations to start procedures prescribed in the flight manual detracted from the overall engine-start procedures, but did not compromise personnel safety or damage equipment.	Deviations to flight manual procedures would have compromised safety or resulted in equipment damage.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
8	Area 8. Taxi.	Followed ground crew directions when departing and arriving parking area. Followed prescribed taxi route at safe taxi speeds.	Did not follow ground crew directions when taxiing aircraft, but did not detract from safe ground operations. Significantly deviated from prescribed taxi route or taxis at inappropriate speeds, but did not detract from safe ground operations.	Significant deviation and excessive speed would have resulted in unsafe ground operations.
9	Area 9. Takeoff.	Maintained runway alignment ± 10 feet during takeoff ground roll. Rotated the aircraft at a rate of approximately 3 degrees per second to 15 degrees nose high. Retracted gear and flaps (at appropriate airspeeds) when safely airborne and flew the climb profile in accordance with the flight manual.	Maintained runway alignment ± 25 feet during takeoff ground roll. Rotated the aircraft at an improper rate or under- or over-rotated more than 5 degrees. Retracted gear and flaps at inappropriate airspeeds or altitudes or failed to follow flight manual cleanup and acceleration schedule, but did not exceed any flight manual gear or flap limitation.	Exceeded runway alignment of ± 25 feet during takeoff ground roll. Attempted to rotate at an unsafe rate. Attempted to rotate to an unsafe attitude. Attempted to exceed the flight manual limiting speeds for the landing gear or flaps.
10	Area 10. Basic Instruments.	Performed instrument procedures in accordance with flight manual and applicable directives.	Made minor errors performing instrument procedures, but did not detract from maneuver accomplishment or safe flight operations.	Errors performing instrument procedures would have resulted in unsafe flight.
11	Area 11. Use of Autopilot/Flight Director.	Autopilot and flight director were used in accordance with flight manual and associated directives.	Made minor deviations in use of autopilot and (or) flight director, but did not degrade safety of flight or exceed flight manual limitations.	Significant deviations would have resulted in unsafe flight or exceeded flight manual limitations.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
12	Area 12. Radio Procedures.	Responded correctly and in a timely manner with proper radio discipline and concise terminology.	Consistently missed required radio calls or did not respond correctly, but air traffic clearances were communicated correctly and flight safety was not compromised.	Missed radio calls and incorrect responses would have resulted in unsafe flight.
13	Area 13. Clearing.	Effectively used visual and radio clearing techniques to avoid traffic conflicts. Recognized actual or potential conflicts and managed situation to deconflict.	Had a limited ability to effectively use visual and (or) radio clearing techniques to avoid conflicts. Had a limited ability to recognize potential conflicts; relied heavily on air traffic control.	Improper or lack of clearing techniques consistently resulted in missed traffic and potential conflicts. Was unable to recognize potential conflicts.
14	Area 14. Airmanship (Critical) .	Executed assigned mission in a timely, efficient manner. Conducted the flight with a sense of understanding and comprehension.	(NOTE: Because this area is critical, Q- is not applicable.)	Decisions or lack thereof would have resulted in failure to accomplish the assigned mission. Demonstrated poor judgment to the extent that safety could have been compromised.
15	Area 15. Situational Awareness (Critical) .	Accurately analyzed flight conditions. Planned and acted in a timely manner to ensure safe mission accomplishment. Prioritization of flight requirements assured mission success.	(NOTE: Because this area is critical, Q- is not applicable.)	Misanalysis of flight conditions and failure to prioritize would have compromised safety or mission accomplishment.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
16	Area 16. General Knowledge.	Knowledge level of aircraft systems and normal procedures ensured correct analysis of systems malfunctions. Was able to use systems knowledge to correctly operate aircraft systems in normal or abnormal operations.	Had a limited knowledge of aircraft systems and normal procedures. Was slow to correctly analyze systems malfunctions. Limited systems knowledge led to incorrect or incomplete operation of aircraft systems in normal or abnormal operations.	Demonstrated unsatisfactory knowledge of aircraft systems, limitations, or performance characteristics.
17	Area 17. Emergency Procedures Knowledge.	Was able to accomplish required recall steps without reference to the checklist or flight manual. Took proper steps to resolve abnormal situations. Used checklist and in-flight guide effectively.	Was slow to accomplish required recall steps. Was slow or required some assistance to take proper steps to resolve the abnormal or emergency situation. Was slow to effectively use the checklist and in-flight guide to solve problems.	Was unable to accomplish recall steps. Was unable to analyze problems or take corrective action. Did not use checklist or lacked acceptable familiarity with its arrangement or contents.
18	Area 18. Crew Debriefing.	Debriefed all aspects of the mission to ensure a thorough understanding of events.	Debrief was incomplete or confusing.	Debrief was insufficient to allow crewmembers to correct deficiencies in future missions.
19	Area 19. Instructional Ability.	Provided instruction appropriate to the student and deferred complex instruction to after flight, if necessary. Was able to discern procedure from technique. Was proficient at accomplishing demonstration maneuvers. Maintained a safe and effective training environment at all times.	Failed to identify student's shortcomings and provided only minimal instruction to the student. On some occasions, confused procedure with technique. Was only marginally proficient at accomplishing demonstration maneuvers. Maintained a safe flying environment at all times.	Was unable to adequately instruct maneuvers. Was unable to successfully demonstrate maneuvers.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
20	Area 20. Visual Pattern.	Pattern speed: + 15/- 5 KIAS of selected flap maneuvering airspeed when attempting to maintain constant airspeed. Final approach speed: $V_{TARGET} + 10/- 0$ KIAS. Pattern altitude: ± 100 feet. Maintained correct glidepath until threshold.	Pattern speed: flap placard speed to - 10 KIAS of selected flap maneuvering airspeed when attempting to maintain constant airspeed. Final approach speed: $V_{TARGET} + 20/- 10$ KIAS. Pattern altitude: ± 200 feet. Minor glidepath deviations were corrected before crossing threshold.	Pattern and final approach speed exceeded the Q-limits. Altitude deviations were more than 200 feet. An erratic glidepath resulted in a go-around.
21	Area 21. Landings.	Runway center line: ± 10 feet, 1,000-2,000 feet down runway. Threshold speed: $V_{TARGET} + 10/- 0$ KIAS.	Runway center line: ± 25 feet, 3,000 feet down runway. Threshold speed: $V_{TARGET} + 15/- 5$ KIAS.	Runway alignment, landing distance, or speed exceeded Q-limits.
22	Area 22. Simulated Engine-Out Visual.	Same as visual pattern (area 20).	Same as visual pattern (area 20).	Same as visual pattern (area 20).
23	Area 23. Simulated Engine-Out Landing.	Same as landings (area 21).	Same as landings (area 21).	Same as landings (area 21).
24	Area 24. Normal Go-Around.	Accomplished flight manual procedures including pitch and configuration changes and acceleration profile in a timely manner.	Safely executed maneuver, but was slow to accomplish required procedures or changes to improper pitch or configuration.	Attempted to exceed flight manual airspeed limitation or safe pitch attitudes.
25	Area 25. Simulated Engine-Out Go-Around.	Same as normal go-around (area 24).	Same as normal go-around (area 24).	Same as normal go-around (area 24).
26	Area 26. Partial Flap Landing/No Flap Low Approach	Runway center line: ± 20 feet, 1,000-2,000 feet down runway ± 300 feet. Threshold speed: $V_{TARGET} + 10/- 0$ KIAS.	Accomplished flight manual procedures in a slow or incomplete manner. Runway center line: ± 25 feet, 3,000 feet down runway. Threshold speed: $V_{TARGET} + 15/- 5$ KIAS.	Improper procedures resulted in unsafe configuration. Touchdown point exceeded Q-limits.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
27	Area 27. Approach to Stalls.	Initiated go-around thrust at approach to stall indication. Recovered to level flight with minimum altitude loss. Did not overspeed gear and (or) flaps. Recognized secondary stall, if entered, and recovered properly.	Failed to initiate recovery at first indication of a stall. Recovered from stall without help, but lost excessive altitude. Approached flap and (or) gear limits. Was slow to recognize secondary stall.	Failed to recognize approach to stall indications. Lost excessive altitude during recovery. Attempted to exceed flap and gear airspeed limits.
28	Area 28. Simulated Engine Failure After Takeoff.	Made timely application of flight manual procedures.	Was slow to identify situation and (or) improper application of flight controls, but was able to control aircraft within safe flying parameters without help.	Attempted to place aircraft in an unsafe condition by misapplication of flight controls.
29	Area 29. Touch-and-Go Procedures.	Briefed and accomplished required touch-and-go procedures in accordance with the flight manual.	Was slow to accomplish correct procedures during touch-and-go procedures, enabling a safe but less than fully effective procedure.	Attempted to place aircraft in unsafe condition by misapplication of flight manual procedures.
30	Area 30. Departure.	Maintained assigned altitude ± 100 feet, desired airspeed ± 10 KIAS/.02M, and assigned heading ± 5 degrees.	Maintained: assigned altitude ± 200 feet, desired airspeed ± 20 KIAS/.04M, and assigned heading ± 10 degrees.	Exceeds Q- limits.
31	Area 31. Steep Turns.	Maintained desired bank angle ± 10 degrees, altitude ± 200 feet, and airspeed ± 15 KIAS. Performed rollout ± 10 degrees of desired heading.	Maintained desired bank angle ± 15 degrees, altitude ± 500 feet, and airspeed ± 30 KIAS. Performed rollout ± 30 degrees of desired heading.	Exceeds Q- limits.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
32	Area 32. Unusual Attitudes.	Used correct instrument flight references and AFMAN 11-217, Volume 1, procedures to recover to level flight expeditiously without stalling or exceeding aircraft limitations and with minimum altitude loss.	Was slow to recognize unusual attitude and apply correct AFMAN 11-217, Volume 1, procedures to recover to level flight, but did not induce an accelerated stall during the recovery or allow the aircraft to exceed any speed limitation.	Failed to recognize unusual attitude or apply correct AFM 11-217, Volume 1, procedures to recover. Attempted to exceed aircraft speed limitations.
33	Area 33. Fix to Fix.	Arrived within 3 NM of desired fix.	Arrived within 5 NM of desired fix.	Exceeded Q- limits.
34	Area 34. Holding/Procedure Turns.	Performed prescribed entry procedures and maintained designated track according to AFMAN 11-217, Volume 1, and other appropriate directives.	Made minor deviations from prescribed procedures, but maintained safe accomplishment of the procedure.	Improper procedures would have resulted in unsafe flight.
35	Area 35. Penetration.	Complied with published approach procedures and appropriate directives.	Made minor deviations from prescribed procedures, but maintained safe accomplishment of the procedure.	Improper procedures would have resulted in unsafe flight.
36	Area 36. En Route Descent.	Accurately planned, executed, and updated descent, resulting in an effective en route descent within the required descent restrictions.	An inaccurately planned descent resulted in high speed descent with drag devices, but was still able to meet altitude restrictions.	Errors in descent planning and execution required additional airspace to complete required descent and revision of descent restriction due to improper planning or execution of en route descent, but did not exceed aircraft limits.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
37	Area 37. Nonprecision Approach (may include TACAN/VOR-DME, VOR, NDB/VOR [RMI only], and LOC/ASR).	Maintained desired altitude ± 100 feet, flap maneuver speed (when attempting to maintain constant airspeed) $+ 15/-5$ KIAS, and assigned heading ± 5 degrees. Maintained arc ± 2 NM. Inside FAF, maintained airspeed at $V_{TARGET} + 10/- 0$ KIAS. Reached and maintained MDA $+ 100/- 0$ feet at or prior to VDP. Maintained course ± 1 dot on the CDI or ± 5 degrees (RMI only). Identified the missed approach point before passing 0.5 NM past (with DME) or 10 sec past (without DME). Aircraft could be safely landed from the approach.	Maintained desired altitude ± 200 feet, flap placard to -10 KIAS of flap maneuver speed when attempting to maintain constant airspeed, and assigned heading ± 10 degrees. Maintained arc ± 4 NM. Inside FAF, maintained airspeed at $V_{TARGET} + 20/- 10$ KIAS. Reached and maintained MDA $+ 150/- 0$ feet at or prior to VDP. Maintained course ± 2 dot on the CDI or ± 10 degrees (RMI only). Identified the missed approach point before passing 1.0 NM past (with DME) or 20 sec past (without DME). Aircraft could be safely landed from the approach only by reverting to a visual approach before reaching the MDA.	Exceeded Q- limits. Aircraft could not land safely from the approach.
38	Area 38. Precision Approach (may include ILS and PAR).	Complied with the applicable criteria for nonprecision approach (area 37). Did not exceed "well above" or "well below" glidepath on a PAR. Maintained ILS glidepath and localizer course within 1 dot.	Complied with the applicable criteria for nonprecision approach (area 37). Consistently exceeded "well above" or "well below" glidepath on a PAR, but did not get so far off course or glidepath to have approach terminated by the controller. Maintained ILS glidepath and localizer course within 2 dots.	Exceeded Q- limits for nonprecision (area 37). Had to execute a missed approach due to course or glidepath deviations. Could not safely land from the approach.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
39	Area 39. Circling Approach.	Planned and executed approach in accordance with guidelines in AFMAN 11-217, Volume 1. See criteria for visual pattern (area 20).	Made minor errors during planning and execution, resulting in a safe but less than fully effective maneuver. See criteria for visual pattern (area 20).	Exceeded Q- limits for visual pattern (area 20). Was unable to safely land from a circling maneuver.
40	Area 40. Missed Approach.	Complied with missed approach/climbout instructions and flight manual procedures.	Was slow to comply with missed approach/climbout instructions and flight manual procedures.	Failed to comply with instruction and flight manual procedures.
41	Area 41. Transition to Landing.	Transitioned to visual cues so a normal glide-path could be flown to landing.	Minor deviations resulted in a steep final or "duck under" final approach, but did not exceed safe flight parameters.	Failed to pick up visual cues early enough to make a safe landing.

Table 5. Navigator Evaluation Criteria.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
1	Area 1. Publications and Equipment.	All equipment, publications, and supplements were posted and carried according to current directives.	Changes to required publications were annotated incorrectly.	Required publications (including changes) were missing, out-dated, and (or) incorrectly posted.
2	Area 2. Mission Preparation.	A thorough, indepth preparation for all mission responsibilities was accomplished.	Deviations resulted from a lack of complete mission preparation, which detracted from performance.	Deviations and omissions would have detracted from safety of flight.
3	Area 3. Briefing.	Briefing covered required items smoothly, timely, and appropriately and promoted student learning.	Omissions, cursory coverage, or poor time management detracted from student learning.	Required items were not briefed, which would have detracted from safety of flight and mission accomplishment.
4	Area 4. Checklist Procedures.	Ensured all checklists were accomplished timely accurately and properly.	Made minor errors, omissions, or deviations from proper checklist procedures, but did not detract from safety of flight.	Omission or deviations would have detracted from safety of flight.
5	Area 5. Ground Operations/Post Mission.	Ensured ground operations/post mission requirements were timely and complete and required information was accurate.	Errors or omissions detracted from mission accomplishment, but did not detract from safety of flight.	Omission or deviations would have detracted from safety of flight.
6	Area 6. Departure/Climb.	Ensured adherence to accurate navigation.	Was slow to recognize or correct minor navigation errors.	Failed to recognize or correct navigation errors.
7	Area 7. En Route Requirements.	Ensured adherence to accurate navigation.	Was slow to recognize or correct minor navigation errors.	Failed to recognize or correct navigation errors.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
8	Area 8. Descent and Approach.	Ensured adherence to accurate navigation.	Was slow to recognize or correct minor navigation errors.	Failed to recognize or correct navigation errors.
9	Area 9. Communication/CRM.	Used accurate and correct terminology throughout mission. Timely crew coordination enhanced learning environment.	Poor coordination of information impacted mission accomplishment.	Poor coordination resulted in confusion and potentially unsafe flight conditions.
10	Area 10. Mission Management/Situational Awareness.	Smoothly integrated instruction, grading, and accomplishment of mission requirements. Effectively executed flight profile.	Fell behind with instruction, grading, and accomplishment of mission requirements. Student training was impacted.	Was unable to accomplish instruction and grading and mission requirements.
11	Area 11. Equipment Knowledge/Operations.	Had a thorough, indepth knowledge of all equipment operations. Used systems knowledge to correctly operate aircraft equipment in normal or abnormal operations.	A limited knowledge of equipment led to incorrect or incomplete operation of aircraft equipment in normal or abnormal operations, but did not detract from safety of flight.	A lack of knowledge of equipment detracted from mission and resulted in potential unsafe flight conditions.
12	Area 12. Emergency Procedures.	Had a thorough, indepth knowledge of all emergency procedures. Ensured proper steps were taken to resolve abnormal situations. Used checklist effectively during emergency situation.	Was slow or required some assistance to take proper steps to resolve emergency situation. Did not use checklist effectively during emergency situation.	Was unable to analyze problems or take corrective action. Did not use checklist or lacked acceptable familiarity with its arrangement or contents.
13	Area 13. General Knowledge.	Had a thorough, indepth knowledge of associated instructions and local governing directives.	Had a limited knowledge of associated instructions and local governing directives.	Lacked acceptable knowledge of associated instructions and local governing directives.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
14	Area 14. Instruction.	Provided timely proactive instruction throughout entire mission. Ensured student learning of correct procedures.	Limited proactive instruction resulted in excessive evaluation. Instruction provided did not focus on application of correct procedures.	Lacked sufficient proactive instruction. Instruction provided/caused student confusion or incorrect application of procedures.
15	Area 15. Subject Matter Knowledge.	Had a thorough, indepth knowledge of all training courseware and mission procedures.	Had a limited knowledge of training courseware and mission procedures.	Lacked sufficient knowledge of training courseware and mission procedures.
16	Area 16. Grading.	Subarea grading was accurate and in accordance with grading policies. Overall grade was supported by subarea grades. Majority of errors committed were documented on gradesheet with associated root cause.	Subarea grading occasionally was not in accordance with grading policies. Student errors were documented, but root cause was not listed on gradesheet.	Subarea grades were not in accordance with grading policies. Numerous errors were unnoticed or not accurately documented. Overall grade was not supported by subarea grades.
17	Area 17. Critique.	A thorough student-centered debrief covered aspects of the mission that required reemphasis and clarification. Adhered to time constraints.	Provided cursory coverage of mission events. Items were marginally debriefed, resulting in student confusion. Deviated from time constraints, but did not detract from debrief.	Failed to debrief significant mission events. Items debriefed were insufficient to allow students to correct deficiencies on future missions. Failed to complete critique in allotted time.
18	Area 18. VOR/TACAN.	Majority of fixes were accurate to within 5 NM.	Majority of fixes were accurate to within 7 NM.	Exceeded Q- limits.

I T E M	A	B	C	D
	Grading Area	Grade		
		Q	Q-	U
19	Area 19. Radar.	Majority of fixes were accurate to within 5 NM.	Majority of fixes were accurate to within 7 NM.	Exceeded Q- limits.
20	Area 20. Navigation Log.	Log computations supported accurate DR/fixes, center line navigation, and mission reconstruction. En route ETAs were ± 2 minutes. True airspeed check was accurate to ± 5 knots. Revised ETA was accurate to ± 1 min. Inertial navigation system TH check was accurate to within 2 degrees of actual.	Occasional log computation errors and omissions were made, but had a minimal effect on DR/fixes, center line navigation, and mission reconstruction. En route ETAs were ± 4 minutes. True airspeed check was accurate to ± 10 knots. Revised ETA was accurate to ± 3 minutes. Inertial navigation system TH check was accurate to within 3 degrees of actual.	Log computation errors and omissions contributed to inaccurate DR/fixes, center line navigation, and mission reconstruction. Exceeded Q- limits.
21	Area 21. Chart Procedures.	Chart procedures supported accurate DR/fixes, computers, and center-line navigation.	Occasional chart errors and omits were made, but had minimal effect on DR/fixes and center line navigation.	Numerous chart errors and omits contributed to inaccurate DR/fixes and center line navigation.
22	Area 22. Course Control (Critical) .	Remained within 10 NM throughout en route portion.	(NOTE: Because this area is critical, Q- is not applicable.)	Exceeded Q- limits.

MARVIN R. ESMOND, Lt General, USAF
DCS, Air & Space Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 11-2, *Aircraft Rules and Procedures*

AFI 11-2T-43, Volume 1, *T-43 Aircrew Training*

AFI 11-202 Volume 2, *Aircrew Standardization/Evaluation Program*

AFMAN 11-217, Volume 1, *Instrument Flight Procedures*

AFMAN 37-139, *Records Disposition Schedule*

Abbreviations and Acronyms

AC—aircraft commander

AS—aircraft surveillance radar

CDI—course deviation indicator

CPT—cockpit procedures trainer

CRM—crew resource management

DME—distance measuring equipment

DR—dead reckoning

EPE—emergency procedures evaluation

ETA—estimated time of arrival

FAF—final approach fix

FE—flight examiner

IFR—instrument flight rules

ILS—instrument landing system

IP—instructor pilot

IRC—instrument refresher course

KIAS—indicated airspeed

LOC—localizer

MAJCOM—major command

MDA—minimum descent altitude

MPP—most probable position

NDB—nondirectional beacon

NM—nautical mile

PAR—precision approach radar

RMI—radio magnetic indicator

TACAN—tactical air navigation

TH—true heading

VOR—very high frequency omnidirectional range station